



STRUX SM™ STUD

SUPERIOR SOFT METAL CLINCH SOLUTION

Strux SM™ is our next generation of clinch product designed for soft metal, offering a stronger and more reliable assembly alternative to traditional clinch studs into the same material. Using an identical hole size and installation method to that of Strux®, Strux SM™ offers the ultimate performance into soft metal.



FEATURES

- ▶ New rib profile equally spaced around the head
 - ▶ Prevents rotation after being staked into sheet material
- ▶ Displacement Collar
 - ▶ Displaces sheet material into retaining groove
- ▶ Retaining Groove
- ▶ Retaining Ring
 - ▶ Barrier for displaced material to prevent pushout

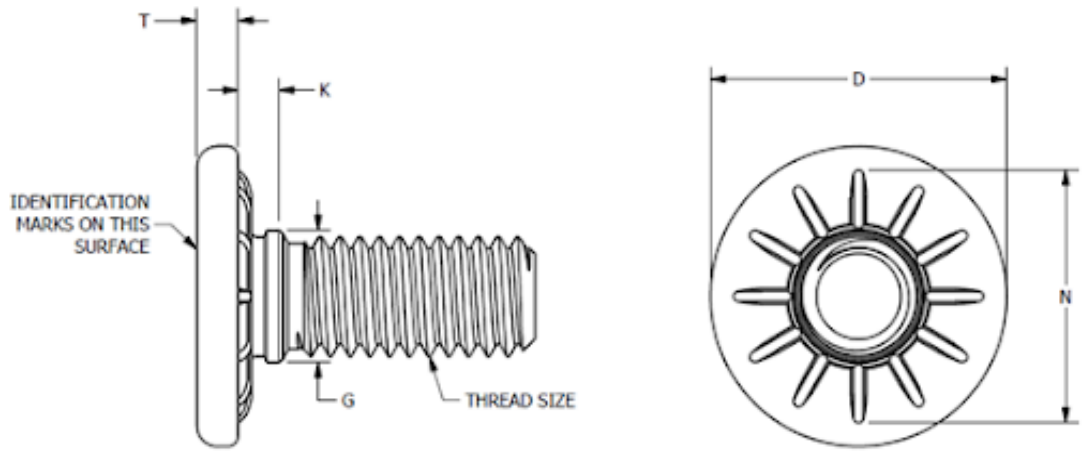
BENEFITS

- ▶ Significantly higher push out and torsional resistance in aluminum vs. current competing clinch product
- ▶ Minimalized panel distortion from installation
- ▶ Fasteners may be installed close together with less panel distortion than current competing clinch product
- ▶ Consistent performance
- ▶ Simple tooling for manufacturing
- ▶ Fast and easy installation— can be installed in-die or using automated equipment
 - ▶ Low-cost, long-life installation tooling compared to competitors
- ▶ May be installed into difficult-to-weld materials
- ▶ Seals against fluids without the need for expensive chemical sealants
- ▶ Each thread size (M5 - M12) has a single design for reduced product complexity

APPLICATIONS INCLUDE:

- ▶ Bumpers and Beams
- ▶ Heat Shield
- ▶ Battery Pack Enclosures
- ▶ Body and Closures
- ▶ Roof Rails





THREAD SIZE	DESIGN (MIN. MATERIAL THICKNESS) (mm)	D	T	G	K	N
		HEAD O.D. (mm)	HEAD HEIGHT (mm)	RETAINING RING O.D. (REF.) (mm)	UNDERHEAD TO RETAINING RING DISTANCE (REF.) (mm)	RIB O.D. (REF.) (mm)
M5	1.0	12.50 12.00	1.50 1.20	5.61	1.5	10.90
M6	1.0	14.25 13.75	1.80 1.50	6.61	1.5	12.40
M8	1.5	18.50 18.00	2.40 2.10	8.61	2.2	14.90
M10	2.3	23.00 22.50	2.90 2.60	10.61	2.9	17.90
M12	2.3	27.50 27.00	3.60 3.30	12.61	2.9	20.90

THREAD SIZE	DESIGN (MINIMUM MATERIAL THICKNESS) (mm)	APPROXIMATE PUSH OUT FORCE (N)	APPROXIMATE UNSUPPORTED TORSIONAL RESISTANCE (N·m)
M5	1.0	800	15
M6	1.0	900	20
M8	1.5	2,100	48
M10	2.3	3,800	107
M12	2.3	4,100	154